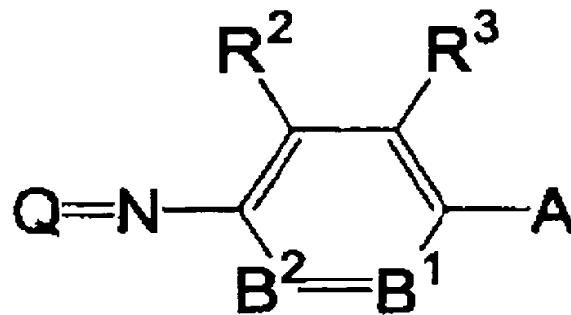


WHAT IS CLAIMED IS:

1. An ink for ink jet recording comprising a colored particulate dispersion formed by dispersing, in a water based medium, colored particulates containing an oil soluble dye and a block copolymer formed from a hydrophobic segment and a hydrophilic segment.
2. An ink for ink jet recording according to claim 1, wherein the oil soluble dye is a compound represented by following general formula (I):

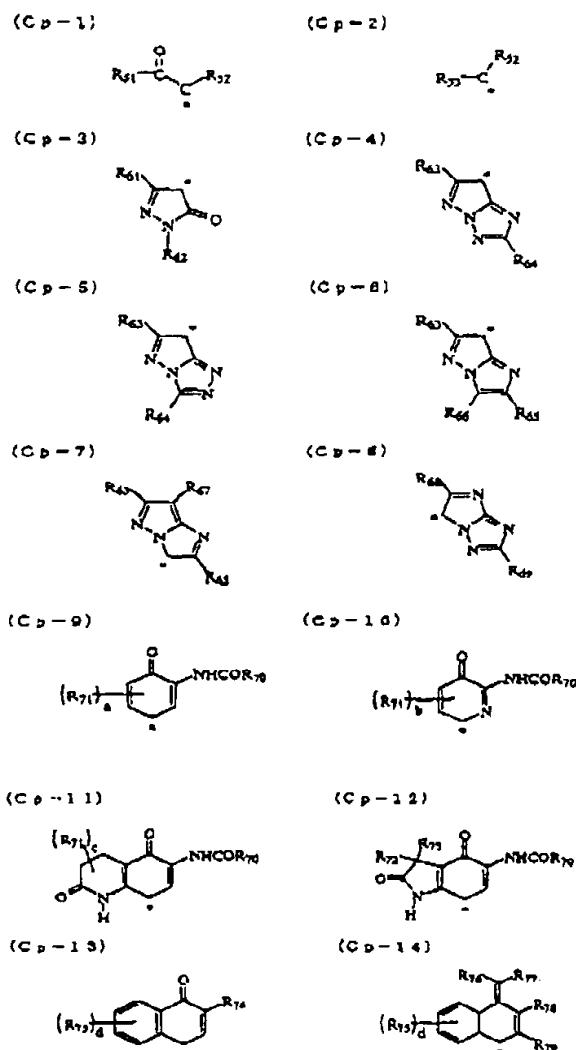
General Formula (I)

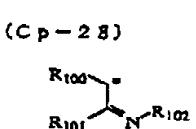
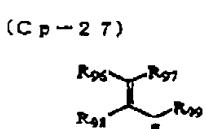
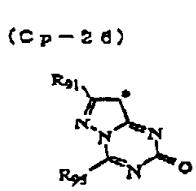
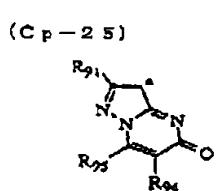
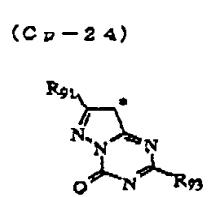
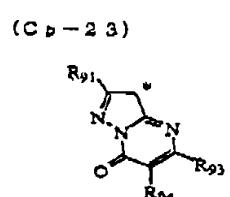
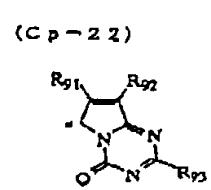
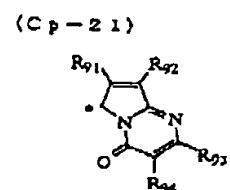
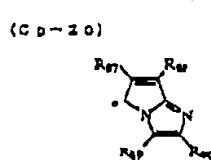
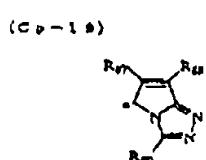
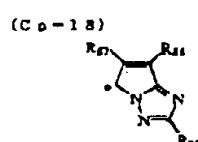
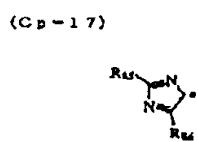
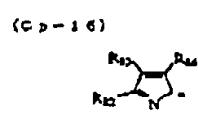
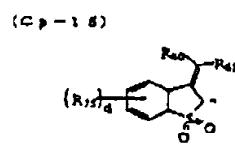


wherein Q represents an atomic group which is needed for the compound expressed by general formula (I) to have absorption in a visible range or in a near infrared range; A represents $-NR^4R^5$ or a hydroxy group, and R^4 and R^5 each independently represents

a hydrogen atom, an alkyl group, an aryl group, or a heterocyclic group; B¹ represents =C(R⁶)- or =N-; B² represents -C(R⁷)= or -N=; R², R³, R⁶ and R⁷ each independently represents a hydrogen atom or a substituent; and R² and R³, R³ and R⁴, R⁴ and R⁵, R⁵ and R⁶, and R⁶ and R⁷ may bind together to form rings.

3. An ink for ink jet recording according to claim 2, wherein, in general formula (I), Q is a group represented by any of following (Cp-1) through (Cp-28):





wherein, in formula (Cp-1), R_{51} represents an alkyl group, an aryl group, a heterocyclic group, or an alkoxy group; and R_{52} represents a carbamoyl group or a cyano group;

in formula (Cp-2), R_{53} represents an aryl group or a heterocyclic group; and R_{52} represents the same groups represented by R_{52} in (Cp-1);

in formula (Cp-3), R_{51} represents an alkyl group, an aryl group, a heterocyclic group, an acylamino group, an amino group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group, an aminocarbonylamino group, or an alkoxycarbonylamino group; and R_{62} represents an alkyl group, an aryl group, or a heterocyclic group;

in formulas (Cp-4) and (Cp-5), R_{63} and R_{64} each represents a hydrogen atom, an alkyl group, an aryl group, a heterocyclic group, an acylamino group, an alkyl or arylsulfonylamino group, an amino group, an alkylthio group, an arylthio group, an alkoxy group, an aryloxy group, an aminocarbonylamino group, or an alkoxycarbonylamino group;

in formulas (Cp-6) and (Cp-7), R_{63} represents the same groups as listed above; and R_{65} , R_{66} , and R_{67} each represents a hydrogen atom, an alkyl group, an aryl group, a heterocyclic group, an acylamino group, an alkyl or arylsulfonylamino group, an amino group, an alkylthio group, an arylthio group, an alkoxy group, an aryloxy group, an aminocarbonylamino group, an alkoxycarbonylamino group, an acyl group, an alkoxycarbonyl group,

or a carbamoyl group;

in formula (Cp-8), R_{68} and R_{69} each represents a hydrogen atom, an alkyl group, an aryl group, a heterocyclic group, an acylamino group, an alkyl or arylsulfonylamino group, an amino group, an alkylthio group, an arylthio group, an alkoxy group, an aryloxy group, an aminocarbonylamino group, an alkoxycarbonylamino group, an acyl group, an alkoxycarbonyl group or a carbamoyl group;

in formulas (Cp-9), (Cp-10), (Cp-11) and (Cp-12), R_{70} represents an alkyl group, an aryl group or a heterocyclic group; R_{71} represents a halogen atom, an alkyl group, an aryl group, a heterocyclic group, a silyl group, an acylamino group, an alkyl or aryl sulfonylamino group, an amino group, an aminocarbonylamino group, an alkylthio group, an arylthio group, an alkoxy group, or an alkoxycarbonylamino group; R_{72} and R_{73} each represents a hydrogen atom or an alkyl group; a represents an integer from 0 to 3; b represents an integer from 0 to 2; c represents an integer from 0 to 4; and when a , b or c is plural, the plural R_{71} may be the same or different;

in formula (Cp-13), R_{74} represents a carbamoyl group, an alkoxycarbonyl group, a cyano group, a sulfamoyl group, an acylamino group, an aminocarbonylamino group, an alkoxycarbonylamino group, or an alkyl or arylsulfonylamino group; R_{75} represents a halogen atom, an alkyl group, an aryl group, a heterocyclic group, an acylamino group, an alkyl or arylsulfonylamino group, an amino group, an alkylthio group, an

arylthio group, an alkoxy group, an aryloxy group, an aminocarbonylamino group, or an alkoxycarbonylamino group; d represents an integer from 0 to 4; and when d is plural, the plural R_{75} may be the same or different;

in formula (Cp-14), R_{75} and d represent the same as listed above; R_{78} and R_{79} represent any of the groups which may be represented by R_{75} ; and R_{76} and R_{77} represent a cyano group, a sulfamoyl group, an alkyl or arylsulfonyl group, an acyl group, an alkoxycarbonyl group, or a carbamoyl group;

in formula (Cp-15), R_{75} and d represent the same as listed above; and R_{80} and R_{81} represent a cyano group, a sulfamoyl group, an alkyl or arylsulfonyl group, an acyl group, an alkoxycarbonyl group, or a carbamoyl group;

in formula (Cp-16), R_{82} , R_{83} , and R_{84} each represents a hydrogen atom, an alkyl group, an aryl group, a heterocyclic group, an acylamino group, an alkyl or arylsulfonylamino group, an amino group, an alkylthio group, an arylthio group, an alkoxy group, an aryloxy group, an aminocarbonylamino group, an alkoxycarbonylamino group, an acyl group, an alkoxycarbonyl group or a carbamoyl group;

in formula (Cp-17), R_{85} and R_{86} each represents a hydrogen atom, an alkyl group, an aryl group, a heterocyclic group, an acylamino group, an alkyl or arylsulfonylamino group, an amino group, an alkylthio group, an arylthio group, an alkoxy group, an aryloxy group, an aminocarbonylamino group, an alkoxycarbonylamino group,

an acyl group, an alkoxycarbonyl group or a carbamoyl group; in formulas (Cp-18) through (Cp-20), R_{87} and R_{88} each represents a carbamoyl group, an alkoxycarbonyl group, an aryloxycarbonyl group, a cyano group, a sulfamoyl group, an alkanesulfonyl group, an arenesulfonyl group, or a nitro group; and R_{89} and R_{90} each represents a hydrogen atom, an alkyl group, an aryl group, or a heterocyclic group;

in formulas (Cp-21) through (Cp-26), R_{91} and R_{92} each represents an alkyl group, an aryl group, a heterocyclic group, a carbamoyl group, an alkoxycarbonyl group, an aryloxycarbonyl group, a cyano group, a sulfamoyl group, an alkanesulfonyl group, an alenesulfonyl group, or a nitro group; and R_{93} , R_{94} and R_{95} each represents a hydrogen atom, an alkyl group, an aryl group, a heterocyclic group, an acylamino group, an aminocarbonylamino group, an alkoxycarbonylamino group, an alkyl or arylsulfonylamino group, a halogen group, an amino group, an alkylthio group, an arylthio group, an alkoxy group, or an aryloxy group;

in formula (Cp-27), R_{97} , R_{98} and R_{99} each represents a hydrogen atom, a cyano group, a sulfamoyl group, an alkyl or arylsulfonyl group, an acyl group, an alkoxycarbonyl group or a carbamoyl group; and R_{98} represents an amino group, an alkylthio group, an arylthio group, an alkoxy group, or an aryloxy group; and

in formula (Cp-28), R_{100} and R_{101} each represents a hydrogen atom, a perfluoroalkyl group, a cyano group, a nitro group, a

sulfamoyl group, an alkyl or arylsulfonyl group, an acyl group, an alkoxy carbonyl group, a carbamoyl group, an alkylthio group or an arylthio group; and R_{102} represents an alkyl group, an aryl group, a heterocyclic group, a sulfamoyl group, an alkyl or arylsulfonyl group, an acyl group, an alkoxy carbonyl group, or a carbamoyl group.

4. An ink for ink jet recording according to claim 3, wherein, in general formula (I), Q is a group represented by any of (Cp-1), (Cp-2), (Cp-4), (Cp-5), (Cp-11), (Cp-12), (Cp-18), (Cp-21), and (Cp-22).

5. An ink for ink jet recording according to claim 1, wherein the water based medium is one of water, a water soluble organic solvent, and a mixture of a water miscible liquid and water.

6. An ink for ink jet recording according to claim 1, wherein the block copolymer is a block copolymer formed from a hydrophobic segment A and a hydrophilic segment B, and is AB type, B^1AB^2 type, or A^1BA^2 type, where A^1 and A^2 may be the same or different, and B^1 and B^2 may be the same or different.

7. An ink for ink jet recording according to claim 6, wherein the block copolymer is a vinyl polymer.

8. An ink for ink jet recording according to claim 7, wherein a vinyl monomer A forming the hydrophobic segment A is ester acrylate, ester methacrylate, N-mono-substituted acrylamide, N-di-substituted acrylamide, N-mono-substituted methacrylamide, N-di-substituted methacrylamide, olefin, or vinyl ether.

9. An ink for ink jet recording according to claim 7, wherein a vinyl monomer B forming the hydrophilic segment B is acrylic acid, methacrylic acid, ester acrylate having a hydrophilic substituent at the ester moiety, ester methacrylate, acrylamide, or methacrylamide.

10. An ink for ink jet recording according to claim 8, wherein a mole ratio of the vinyl monomer A contained in the hydrophobic segment A to a vinyl monomer B is 100:0 to 60:40.

11. An ink for ink jet recording according to claim 9, wherein a mole ratio of the vinyl monomer B contained in the hydrophilic segment B to a vinyl monomer A is 100:0 to 60:40.

12. An ink for ink jet recording according to claim 1, wherein the block copolymer has an ionic group selected from a carboxyl group, a sulfo group, a sulfino group, and a phosphino group, and a contained amount of the ionic group is from 0.2 mmol/g or more to 5.0 mmol/g or less.

13. An ink for ink jet recording according to claim 1, wherein a molecular weight (Mn) of the block copolymer is from 1000 to 100,000.

14. An ink for ink jet recording according to claim 1, wherein the colored particulates are prepared by emulsification by one of pouring water into an organic solvent phase containing the block copolymer and the oil soluble dye, and pouring the organic solvent phase into water.

15. An ink for ink jet recording according to claim 1, wherein the colored particulates contain a hydrophobic high boiling point organic solvent.

16. An ink for ink jet recording according to claim 1, wherein, in the colored particulate dispersion, an amount of the block copolymer which is used is 10 to 100 parts by mass with respect to 100 parts by mass of the oil soluble dye.

17. An ink for ink jet recording according to claim 1, wherein an amount of the colored particulates contained in the colored particulate dispersion is 1 to 45% by mass.

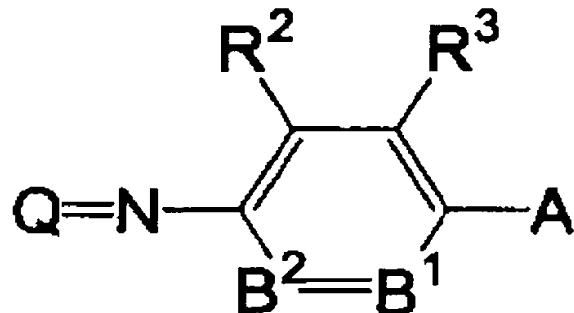
18. An ink for ink jet recording according to claim 1, wherein

an average particle diameter of the colored particulates is in a range of 1 to 500 nm.

19. An ink jet recording method wherein recording is carried out by using an ink for ink jet recording comprising a colored particulate dispersion formed by dispersing, in a water based medium, colored particulates containing an oil soluble dye and a block copolymer formed from a hydrophobic segment and a hydrophilic segment.

20. An ink jet recording method according to claim 19, wherein the oil soluble dye is a compound represented by following general formula (I):

General Formula (I)



wherein Q represents an atomic group which is needed for the compound expressed by general formula (I) to have absorption in

a visible range or in a near infrared range; A represents $-NR^4R^5$ or a hydroxy group, and R^4 and R^5 each independently represents a hydrogen atom, an alkyl group, an aryl group, or a heterocyclic group; B^1 represents $=C(R^6)-$ or $=N-$; B^2 represents $-C(R^7)=$ or $-N=$; R^2 , R^3 , R^6 and R^7 each independently represents a hydrogen atom or a substituent; and R^2 and R^3 , R^3 and R^4 , R^4 and R^5 , R^5 and R^6 , and R^6 and R^7 may bind together to form rings.